



## Treatment of Mucormycosis Infection of Wound in a Patient with Severe COVID-19

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### Clinical Image

The case was a 65-year-old male. He visited the emergency room due to fever for 11 days, diarrhea for 5 days, and shortness of breath for 3 days. He had history of hypertension and untreated diabetes. After admission, nucleic acid testing and imaging confirmed a novel Coronavirus pneumonia (COVID-19). Two weeks after admission, he was intubated and given mechanical ventilation due to progressive aggravation of shortness of breath, but not improved. However, the symptoms were relieved after ECMO therapy. Thrombolytic therapy was given for suspected pulmonary embolism, and petechia and ecchymosis appeared on the back, which rapidly formed a black necrotic eschar with an area of 26 cm × 20 cm (Figure E). Histopathological examination: HE staining (Figure A, B), silver hexamine staining (Figure C) and fluorescence staining (Figure D) showed a large number of thick hypha, right-angle branches (yellow arrow) and cystic hyphal cross section (black arrow), confirming invasive mucormycosis infection. Bedside wound dressing and conservative debridement were performed, only the separated necrotic tissue was removed, and then the wound was treated with topical silver sulfadiazine suspension, along with systemic antifungal therapy with liposomal amphotericin B and posaconazole. Thorough debridement and autologous split-thickness skin graft were performed after the patient's general condition was improved. Viral infection, untreated diabetes, broad-spectrum antibiotics, hormonal use, and ICU admission are all risk factors for invasive mucormycosis infection. Thorough debridement under low immunity of the body easily leads to the spread of mucormycosis infection. Delayed wound debridement, systemic use of antifungal drugs, thorough debridement after stable general condition and autologous skin grafting are effective strategies for the treatment of mucormycosis wound infection in severe patients. The wound was healed, and the patient was discharged 68 days later (Figure F).

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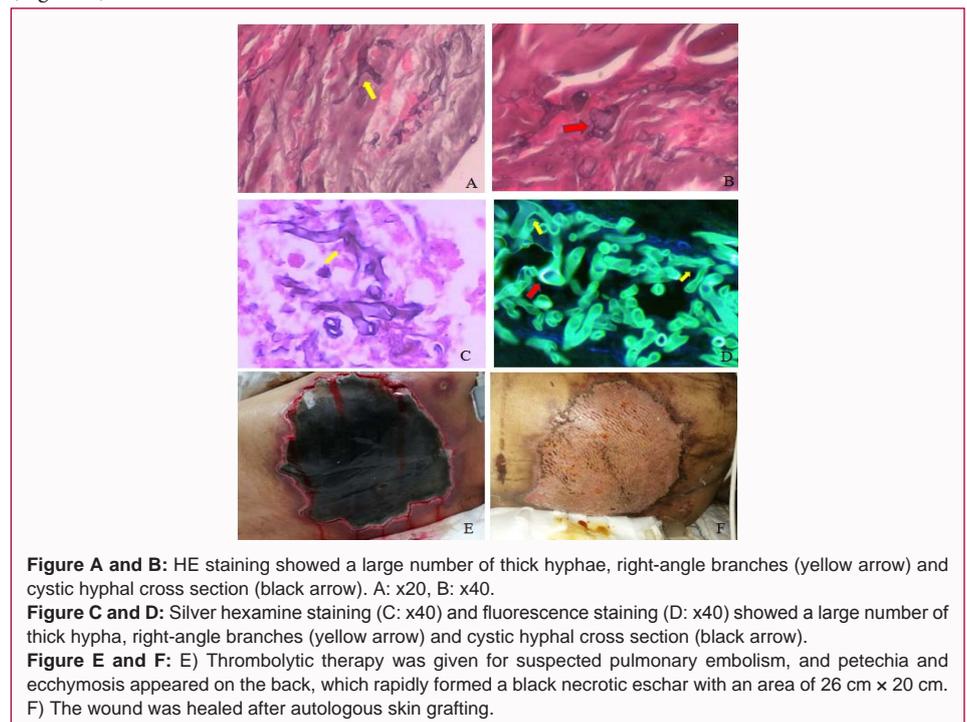
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**Figure A and B:** HE staining showed a large number of thick hyphae, right-angle branches (yellow arrow) and cystic hyphal cross section (black arrow). A: x20, B: x40.

**Figure C and D:** Silver hexamine staining (C: x40) and fluorescence staining (D: x40) showed a large number of thick hypha, right-angle branches (yellow arrow) and cystic hyphal cross section (black arrow).

**Figure E and F:** E) Thrombolytic therapy was given for suspected pulmonary embolism, and petechia and ecchymosis appeared on the back, which rapidly formed a black necrotic eschar with an area of 26 cm × 20 cm. F) The wound was healed after autologous skin grafting.